

REMARKS

Applicant requests that the next Office Action be treated as a first Office Action and that the next Office Action respond to remarks and amendments made by Applicant. The Examiner has issued a series of Office Actions containing the same rejections without any comment on Applicant's arguments, making it difficult to determine how to respond.

Claims 1-12 are pending in this application. In the Office Action referenced above, Claims 1-12 were rejected under 35 U.S.C. 112 as being indefinite for failing to make clear what is meant by "full moment connection." The Examiner indicates that she understands that the "mere attachment of the end plate to the beam subjects the end plate along with the remainder of the beam to a 'moment' when a force is applied thereto." This understanding of "full moment connection" is not correct. A "full moment connection" permits full strength beam assemblies to be constructed by interconnecting end-to-end a plurality of individual beam members.

Applicant identifies the thrust of his invention in the present application as "achiev[ing] a full moment connection between the end plate 52 and the flange 54." [McCracken, Page 9, Lines 8-9]. To accomplish the full moment connection, "end plate 52[,] rests on the ledge formed by recessed free end portions 56, 64 such that the recess 66 extends to a depth to receive one-half the thickness of the end plate 52." [McCracken, Page 8, Lines 14-16].

The end plate secured to the opposing flanges and to the web provides a superior means for interconnecting beam members. The point of interconnection of individual beam members typically requires a separate support post or securing collar, as the

connection usually comprises a weak point, as described in the Background of the Invention, paragraph 6. Applicant's invention, however, resists bending forces and the connection is not a weak point in the beam assembly. The claimed invention has a pair of flanges, each of which has inwardly extending leg sections with recesses. The end plate is received within the flanges. The recessed flanges hold and surround the end plate and allow individual beam members to be connected together using nothing more than bolts through the end plate. The end plate and recessed flanges result in the elimination of the need for securing collars or overlapping connections and create a very strong, full moment connection.

Several patents use the term "full moment" in a similar manner. For example, United States Patent No. 5,244,300 describes a structural connector used to interconnect at least two members. According to the '300 patent, most structures include beams, columns, and girders which are welded or bolted to other members at their ends or mid-sections using connectors. There are a variety of connector types: simple (shear), semi-rigid (partial-moment), and rigid (full-moment). ['300 patent, col. 1, lines 53-58]. United States Patent Nos. 6,237,303 and 6,554, 225 also use "full moment" to describe rigid connections that resist buckling.

Additionally, this rejection of claim 11 is improper, as claim 11 does not recite the phrase "full moment connection."

Claims 1, 4-5, 8-10, and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over CH 000414118 in view of U.S. Patent No. 3,716,959 (Bernardi). The Examiner indicates that the "full moment connection" in claim 1 has not been given patentable weight because it is narrative form and requires that this functional recitation

be expressed as a “means” for performing the specified function. Claim 1 has been amended to meet this requirement, and new claim 13 has been added to recite structure for performing this function.

While applicant has described the significant differences between CH 00414118, Bernardi, and the present invention several times in the past, an explanation of these differences bears repeating.

CH 000414118 discloses a beam with flanges, a central web, inwardly extending web sections, and a convoluted web member having alternating protrusions adjacent to the leg sections, etc., as described by the Examiner. However, CH 000414118 does not disclose or teach through its illustrations a beam member having in-turned free end portions of an opposing flange and constructing the same such that a recess and shelf are created for receiving an end plate that improves the overall structural integrity of the beam, as well as providing for full moment longitudinal connection to another beam.

The Examiner points to Bernardi for the teaching of a plate welded to a beam end. Bernardi further describes the patentable features of his invention by explaining that “the beam (10) is adapted at each end for a semi-rigid connection to columns 12, 14. A semi-rigid connection . . . to the columns . . . permit[s] elongation under load . . . to obtain the semi-rigid action [that] permits the beam to flex under loading.” [Bernardi, Column 2, Lines 26-34]. Bernardi also teaches that, “welds (39) are provided between the abutting ends of the web (22), at (41) in the lower flange (18) and at (43) in the separated flange portion (32)” [Bernardi, Column 2, Lines 46-49]. However, Bernardi does not disclose or teach a beam member having free end portions of an opposing flange and constructing the same such that a recess and shelf are created for receiving an end plate that improves

the overall structural integrity of the beam, as well as providing for a longitudinal connection to another beam.

As is seen in Figures 12a, 12b, and 13 of the instant application, Applicant's invention comprises free end portions 56, 64 of flange 54 in a recessed arrangement from the top of leg sections 58, 62. Clearly, the CH 000414118 disclosure of a variety of internal webbing for beam members does not teach or suggest the recited article directed to a beam member having an end plate secured to the leg sections of opposing flanges and the beam web for improving the overall structural integrity of the beam, as well as providing for a full moment interconnection of more than one beam.

Moreover, unlike the demand moment beam abutting plate adapted for a semi-rigid connection to a pair of columns as taught by Bernardi, the end plate of the present invention is provided for improving the overall structural integrity of the beam, as well as providing for a full moment interconnection of more than one beam [*Compare* Bernardi, Column 1, Lines 8-11; Column 2, Lines 46-49, *with* McCracken, Page 9, Lines 19-22 through Page 10, Lines 1-4; Figures 12a, 12b, and 13]. The present invention "eliminates the need for the overlapping connections and securing collars used in the prior art." [McCracken, Page 9, Lines 21-22]. If one were to combine the beam member of CH 000414118 with the semi-rigid connection plate of Bernardi, the result would necessarily constitute a beam member vastly different from that of Applicant. There is nothing disclosed in either the CH000414118 et al. reference or the Bernardi reference which would teach or suggest to one skilled in the art the modification of the references suggested by the Examiner. Arguably, the references, whether considered alone, or in combination, teach away from the modifications suggested by the Examiner.

Neither of the cited references identify a beam member having an end plate for improving the overall structural integrity of the beam, as well as providing for a full moment interconnection of more than one beam. [McCracken, Page 9, Lines 19-22 through Page 10, Lines 1-4; Figures 12a, 12b, and 13]. Unlike the overlapping connection or securing collar of Bernardi, the present invention “eliminates the need for the overlapping connections and securing collars used in the prior art.” [McCracken, Page 9, Lines 21-22]. There is nothing disclosed in CH000414118 et al., or Bernardi that would teach, suggest, or motivate one skilled in the art to modify the references suggested by the Examiner. Based on the foregoing, Applicant respectfully requests that the Examiner withdraw the rejections of claims 1, 4-5, 8-10, and 12 under 35 U.S.C. § 103(a) as being unpatentable over CH000414118 in view of U.S. Patent No. 3,716,959 to Bernardi.

In addition, Claims 2, 3, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over CH000414118 in view of U.S. Patent No. 3,716,959 to Bernardi and in further view of U.S. Patent No. 6,253,529 to De Boer. As discussed above, the present invention is patentably distinguishable over CH000414118 and Bernardi. The present application is patentably distinguishable over De Boer because while the De Boer patent does describe recesses, the recesses in De Boer are not designed to accommodate an end plate, nor are they used in a full moment connection wherein full strength assemblies can be constructed with individual members.

There is nothing disclosed in CH000414118 et al., Bernardi, or De Boer that would teach, suggest, or motivate one skilled in the art to modify the references suggested by the Examiner. Based on the foregoing, Applicant respectfully requests that

the Examiner withdraw the rejections of claims 2, 3, and 11 under 35 U.S.C. § 103(a).

The Examiner also rejected Claims 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over CH000414118 in view of U.S. Patent No. 3,716,959 to Bernardi, as applied to the rejection of claim 1 above, and in further view of the '919 patent to McCracken. Applicant respectfully disagrees and submits that the '919 patent to McCracken is not prior art as defined by 35 U.S.C. § 103(a). Accordingly, Applicant respectfully requests the withdrawal of the obviousness rejection based on the combination of the CH000414118 et al., Bernardi, and McCracken references.

Section 103(a) states:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

35 U.S.C. § 103(a) (1999).

Accordingly, one must look to Section 102 to determine what is meant by "invention" in Section 103(a). In the present case, the '919 patent is not prior art under 35 U.S.C. § 102(a) because the invention was not known or used by others in this country, or patented, or published in this or a foreign country, before the invention thereof by the Applicant. 35 U.S.C. § 102(a) (1999). The '919 patent, issuing on September 28, 1999, is not prior art under 35 U.S.C. § 102(b) because the subject invention was not patented by the Applicant in this or a foreign country or in public use or on sale more than one year prior to the filing date of the present application. 35 U.S.C. § 102(b) (1999). The present application was filed on June 18, 1999, whereas the '919

patent issued on September 28, 1999, over three months after the present application's filing date. Applicant has not abandoned the application, nor has Applicant filed for a foreign patent prior to filing in the United States. 35 U.S.C. §§ 102(c)-(d) (1999). Furthermore, the '919 patent is not prior art to the invention of the instant application under Sections 103(e)-(g). 35 U.S.C. §§ 102(e)-(g) (1999). Accordingly, the '919 patent is not prior art under Section 102, and therefore, its use in rejecting the claims of the instant application under Section 103(a) cannot be sustained. In view of the foregoing, Applicant respectfully requests the withdrawal of the obviousness rejection based on the combination of the CH000414118, Bernardi, and McCracken references.

Accordingly, the purpose of the claimed invention is not taught nor suggested by the cited references, nor is there any suggestion or teaching that would motivate one skilled in the relevant art to combine the references in a manner that would meet the purpose of the claimed invention. Because the cited references, whether considered alone, or in combination with one another, do not teach nor suggest the purpose of the claimed invention, Applicant respectfully submits that the claimed invention patentably distinguishes over the prior art, including the art cited merely of record.

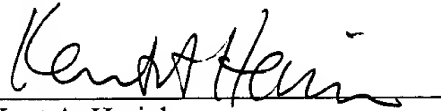
Based on the foregoing, Applicant respectfully submits that claims 1-13 are in condition for allowance at this time, patentably distinguishing over the cited prior art. Accordingly, reconsideration of the application and passage to allowance are respectfully solicited.

The Examiner is respectfully urged to call the undersigned attorney at (515) 288-2500 to discuss the claims in an effort to reach a mutual agreement with respect to claim limitations in the present application which will be effective to define the patentable

subject matter if the present claims are not deemed to be adequate for this purpose.

Date: March 30, 2004

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Kent A. Herink", written over a horizontal line.

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